DOCUMENT RESUME

ED 357 867 PS 021 397

AUTHOR Mortimer, Jeylan T.; And Others
TITLE The Effects of Work Intensity on Adolescent Mental Health, Achievement and Behavioral Adjustment: New Evidence from a Prospective Study.
SPONS AGENCY National Inst. of Mental Health (DHHS), Bethesda, Md.
PUB DATE 26 Mar 93
CONTRACT MH42843
NOTE 44p.; Paper presented at the Biennial Meeting of the Society for Research in Child Development (60th, New Orleans, LA, March 25-28, 1993).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Achievement; *Adolescent Development; Adolescents; Behavior Problems; Depression (Psychology); Drinking; High Schools; *High School Students; Longitudinal Studies; *Mental Health; Part Time Employment; Self Esteem; Student Behavior; *Student Employment; Work Environment; *Work Experience
IDENTIFIERS Mastery Motivation

ABSTRACT

This longitudinal study examined adolescents' mental health, academic achievement, and behavioral adjustment in relation to work intensity during high school. Data were collected from approximately 1,000 adolescents during a 4-year period, beginning in the subjects' freshman year of high school. Self-administered questionnaires were distributed each year; 93 percent participation was maintained over the 4-year period. Mental health variables measured included depressive affect, self-esteem, and mastery orientation; two indicators of school achievement were grade point average and time spent doing homework. Adolescents were considered employed if they were working at least once a week outside their home for pay at the time of each survey. Work intensity was measured by hours of employment per week. Analysis showed that 12th grade students who worked fewer than 20 hours per week had significantly higher grade point averages than students who did not work at all. Only in the senior year did students who worked long hours spend less time on homework. No evidence to support the claim that working long hours fosters smoking or school problem behavior was found. However, there was evidence that as work hours increased, alcohol use also rose. No significant relationships between hours of work, psychological outcomes, and indicators of school involvement were found. (MM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED357867

April, 1993

The Effects of Work Intensity on Adolescent Mental Health, Achievement and Behavioral Adjustment: New Evidence from a Prospective Study*

Jeylan T. Mortimer

Michael D. Finch

Seongryeol Ryu
University of Minnesota

Michael J. Shanahan
University of North Carolina at Chapel Hill

Kathleen T. Call
University of Minnesota

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Jeylan T. Mortimer
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)"

PS 021397

*Paper to be presented at the biennial meeting of the Society for Research on Child Development, New Orleans, March 26, 1993. Symposium on Adolescent Work and Development in Context: New Evidence from Urban, Rural, and National Data.

This research was supported by a grant, "Work Experience and Adolescent Well-Being," from the National Institute of Mental Health (MH42843).

The Effects of Work Intensity on Adolescent Mental Health, Achievement and Behavioral Adjustment: New Evidence from a Prospective Study

The increasing prevalence of employment among in-school youth has generated much controversy. Public attitudes toward youthwork have been highly favorable (Phillips and Sandstrom, 1990), and several national task forces have called for greater adolescent involvement in the workplace (Panel on Youth, 1974; Wirtz, 1975; Carnegie Council on Policy Studies in Higher Education, 1980; National Commission on Youth, 1980). Elder's (1974) study of the depression era found that adolescents in economically-deprived families contributed to the family economy by paid work or through household labor. The more positive mental health and achievement of this cohort, in contrast to those who were younger at the time, were attributed to the self-confidence gained from helping the family at a time of great need (Elder and Rockwell, 1979). It is often observed that caring for others is developmentally beneficial (Garmezy, 1988; Werner, 1984; Hetherington, 1989).

More recent research has also identified benefits associated with adolescent work. Greenberger and Steinberg's (1986) widely publicized study in four California high schools showed that employment was associated with self-reported punctuality, dependability, and personal responsibility (see also Steinberg, et al., 1982b; Greenberger, 1984); employment was also related to girls' self-reliance (Greenberger, 1984). D'Amico's (1984) analysis of the N.L.S. youth data showed that employment at low intensity (less than 20 hours per week) lessened drop-out rates. He argues that employers and schools reward personality traits which promote achievement. Even marginal jobs require self-discipline, mobilization of effort, and application to a task (Snedeker, 1982). Given that decisions that must be made in adolescence mark

the first step of a life-long socio-economic career (Featherman, 1980; Blau and Duncan, 1967), it is not surprising that working during high school is positively related to subsequent attainment (Steel, 1991).

Nonetheless, the predominant tone of most recent scientific commentaries on youth employment is negative. In contrast to youthwork during the Depression, the societal context and meaning of work for adolescents have changed. Greenberger and Steinberg (1986) stress that young workers prematurely take on adult responsibilities without adequate coping skills (Greenberger, 1983, 1988; see also Cole, 1980). Some investigators (Bachman, et al., 1986; Steinberg and Dornbusch, 1991) link decrements in adjustment to hours of work, finding that adolescents who work long hours are particularly prone to problem behaviors such as substance use, delinquency, and low achievement. Greenberger and Steinberg (1986: 132) also report that working adolescents engage in more deviant behavior and school tardiness than those who are not employed. Employment has been associated with cigarette and marijuana use (Greenberger, 1984; Steinberg, et al., 1982a). Recent studies also suggest that long hours of work are linked to diminished involvement in school, as indicated by time doing homework, extracurricular participation and academic achievement (Greenberger and Steinberg, 1986; Marsh, 1991; Mortimer and Finch, 1986). However, Steinberg and Dornbusch (1991) find that students who worked moderate, rather than long hours, reported the highest rates of school misconduct; there is a lack of consensus about the effect of employment on grade point average (Steinberg, et al., 1982a, 1982b; Schill, et al., 1985; Lewin-Epstein, 1981; D'Amico, 1984; Hotchkiss, 1982; Steinberg and Dornbusch, 1991).

Prior research has thus considered the association between adolescent employment and a range of presumed attitudinal and behavioral outcomes, with

major emphasis on achievement-related behavior. But it is also plausible to expect that work would influence adolescent mental health. Adolescents who are employed while they are in school have acquired a status position in an environmental context that is entirely new to them. In this arena, they must enact an unfamiliar role that has major significance in the lives of adults. Just having a job may lead to changed self-concepts and new identities, new expectations of responsibility and independence on the part of parents (Phillips and Sandstrom, 1990), and high status in the eyes of peers (Mortimer and Shanahan, 1991).

However, as hours of employment increase, adolescents may experience growing difficulties in juggling the demands of work, school, and extracurricular activities, as well as commitments to family and friends. Greenberger and Steinberg (1986) warn that because work typically consumes so much time, some adolescents miss out on a valuable "moratorium" period which should be available to explore alternative identities and to develop close interpersonal relationships.

In this paper we examine mental health, academic achievement, and behavioral adjustment in relation to the intensity of work during four years of adolescence, using recently-collected longitudinal data. In two earlier papers, based on first-wave data from the same study, we reported that there were few significant relationships between employment status and intensity, on the one hand, and several criteria of mental health, on the other. However, the situation was different with respect to the behavioral indicators. As hours of work increased, ninth-grade boys and girls engaged in more alcohol use, smoking, and school problem behavior (Mortimer, et al. 1992a). Furthermore, work intensity measured over a period of time (average hours of work since the very first job) had detrimental implications for behavioral

adjustment even when contemporaneous work intensity was controlled (Mortimer, et al., 1992b). In these analyses, however, the ability to make causal inferences was quite limited by the cross-sectional data. That is, we were unable to assess selection processes; we could not determine whether those who initially manifest more behavioral problems choose to work longer hours. Furthermore, we could not measure the stability of the problem behaviors over time; nor could we determine whether work would have a significant impact on behavioral adjustment after controlling such stability. All of these problems are remedied in the present longitudinal study.

DATA SOURCE

The data were obtained from a four-year study (1988-1991) of the effects of work experience on adolescent mental health and development. The panel was chosen randomly from a list of ninth graders enrolled in the St. Paul (Minnesota) School District. Consent to participate was obtained from 1,139 parents and 1,139 adolescents who constituted 64 percent of eligible cases. (Eligibility to participate in the study was defined by enrollment in the school district at the time of the initial data collection and by the absence of disabilities that would prevent the completion of a questionnaire.) Signed consent was obtained from the invited adolescent as well as one parent or guardian.

This school district contained a large concentration of Hmong families who constituted 9 percent of both the student body and the initially-selected sample. Because the Hmong are very recent immigrants with a distinctive cultural tradition, they required special data collection procedures. The analyses of the Hmong data are focused on issues of acculturation; they are reported elsewhere (Call and McNall, forthcoming; Dunnigan, et al., forthcoming). This paper presents findings based on the general (non-Hmong)

panel (N=1,000).

The 64 percent response to the letter of invitation is cause for concern because those who decided to participate in the study could be systematically different from those who refused. For example, more highly-educated parents could be more positively disposed to research of this kind. To investigate this possibility, a probit analysis (LIMDEP) of the decision to participate was conducted, with neighborhood socio-economic context indicators obtained from census tract tapes and other variables obtained from school records assigned to each general sample case as predictors (Finch, et al., 1991). Girls were found to be more likely to participate than boys (there are 476 boys and 524 girls in the general sample), and older students (i.e., older than their ninth-grade peers) were less likely to be in the study. Most importantly, no socio-economic contextual variables predicted participation. We conclude that the sample well represents the student body in the St. Paul Public Schools. (For further information about the sample, see Mortimer, et al., 1992a).

Self-administered questionnaires were distributed in school classrooms each year (grades 9-12); those students who were not present for either of two scheduled administrations (and those who were not attending school, e.g., 10 percent in wave 4) were mailed questionnaires to their homes, using procedures recommended by Dillman (1983). Of the initial 1,000 participants, 93% were retained over the four-year period. Questionnaire data were also obtained during the first wave from parents of 96% of the adolescent participants. Information concerning family socio-economic background was obtained directly from the parents.

MEASUREMENT

The mental health variables under consideration are depressive affect

(from the "General Well-Being Scale" of the Current Health Insurance Study Mental Health Battery, Ware, et al., 1979), self-esteem (from the Rosenberg Self-Esteem Scale, Rosenberg, 1965), and mastery orientation (from the Pearlin Mastery Scale, Pearlin, et al., 1981). The loadings for each psychological construct were derived from a confirmatory factor analysis of all four waves of data using LISREL PC VI.3 (see Appendix A). In these analyses, item variance is expressed as two components: that which is related to the construct (the "true score" variance) and "error" (including variance that is unique to the item and measurement error). In estimating the measurement structure of each mental health construct, the error terms of each item were correlated over time. To systematically assess the similarity of measurement structures across waves, and for each sex, corresponding unstandardized lambda coefficients (analogous to factor scores) were constrained to be equal across waves and gender groups. Goodness-of-fit tests showed that for the three mental health constructs there were no significant differences between freely estimated and fully constrained (across four waves and the two gender groups) models. This shows that the pattern of covariation among the items, which reflect their meaning in relation to one another, does not differ across waves and is the same for boys and girls. Therefore, unstandardized lambda coefficients derived from the fully constrained models (lambdas set to be equal across waves and groups) are used as item weights. The more readily interpretable standardized coefficients are given in Appendix A.

There are two indicators of school achievement: self-reported grade point average, and the amount of time (hours per week) spent doing homework. Adolescent behavioral adjustment was measured by two items reflecting problem behavior in school (derived from Simmons and Blyth, 1987) and by the frequency of alcohol and cigarette use. (These measures are shown in Appendix A.) Among

boys, 46 percent were users of alcohol in wave 1, 60 percent in wave 4; the corresponding figures for girls are 48 and 59 percent, respectively. Across the four-year period boys' smoking increased from 23 percent to 30 percent; 28 percent of the girls smoked in wave 1, 34 percent in wave 4.

Adolescents were considered employed if they were working at the time of each survey administration at least once a week, outside their homes, for pay. Occasional sporadic employment and work done without monetary compensation do not meet these criteria. Work intensity was measured by hours of employment per week.

ANALYTIC STRATEGY

In this study, we examine the consequences of hours of work <u>after</u> the ninth grade. We do this for three reasons. First, the concern about youth employment focuses on formal employment in the context of the regular paid labor force, not on babysitting, considered one of the more positive jobs held by teenagers (Greenberger and Steinberg, 1981), or other kinds of informal work. As we shall see, students are more likely to hold jobs in formal work settings after the ninth grade. Second, analyzing longitudinal data, obtained at more than one point in time, enables assessment of the stability of the mental health, achievement and adjustment criteria and control of this stability in estimating the effects of work intensity. Third, as already noted, first-wave relationships between ninth graders' work and their mental health and behavioral adjustment have already been reported (Mortimer, et al., 1992a; 1992b). By examining the interrelations of work experience and the criteria subsequently, we can discern whether the patterns of association are consistent across the years of high school.

It should be recognized that while different individuals work in each year of the study, there is considerable employment stability. For example,

of students who were employed in the first wave, 61 percent were working in the second. Thirty-three percent of first-wave non-workers were employed one year later. (Of all respondents who were employed in wave 3, 80% were also working in wave 4; forty-two percent of the wave 3 non-workers were also employed one year later.) But because students often change their jobs and work schedules, there are shifts in the intensity of work even among those who continue to be employed across succeeding waves. Thus, the findings with respect to each time period may be best characterized as partially independent replications.

There is some disagreement in the literature about the existence of a distinct cutoff with respect to work hours, beyond which adolescents should not work. Greenberger and Steinberg (1986), on the basis of their California study, concluded that tenth-grade students should not work more than 15 hours per week, and eleventh-graders should not work more than 20 hours. However, other findings based on more recently-collected data indicate that there is no single point after which working becomes markedly deleterious (Steinberg and Dornbusch, 1991; Bachman and Schulenberg, 1991). It is therefore typical for investigators to examine the effects of hours measured as an interval-level variable; those who are not employed are scored as working zero hours. In preliminary analyses we also used this strategy.

However, if there were a cutoff beyond which the effects of working changed, it could be obscured by such a procedure. For example, whereas working relatively few hours could be beneficial, excessive work hours could have detrimental outcomes. So as to explore this possibility, we incorporate two dummy variables in each equation reflecting lower and higher-intensity work (the first scored 1 if the student works 1-20 hours per week; the second scored 1 if more than 20 hours; when both dummy variables are included in the

equation, the reference category consists of those who are not employed).

In considering the possible effects of hours of work on adolescent mental health, school involvement and problem behaviors, it is useful to take possibly confounding factors into account. For example, significant differences between boys and girls on the mental health, achievement, and adjustment criteria could render spurious any observed relationships between hours of work and the criteria. Thus, if girls had higher grade point averages than boys and also worked fewer hours, a negative relationship between hours of work and academic achievement would be spurious. Since gender is found to be associated with all of the criteria, it is controlled in all analyses. (A series of preliminary analyses of all outcome variables, including two work intensity dummy-variable predictors, gender, and terms expressing the interaction of gender and work hours demonstrated no significant differences between boys and girls in the effects of work intensity. We therefore do not estimate the equations separately for boys and girls.)

Furthermore, if employed students from lower socio-economic backgrounds or those who are disadvantaged in other respects work longer hours than those who come from more advantaged families (Mortimer, et al., 1992a), this tendency could account for any deleterious effects of hours of work. Therefore, four background control variables are also included in the analyses: socio-economic status (an index comprised of parental education and family income), race (coded 1 if White, 0 if other), family composition (coded 1 if two-parent family, 0 if another family type), and nativity (coded 1 if born in the U.S., 0 if elsewhere). For the third and fourth-wave analyses of the mental health and behavioral adjustment outcomes, school drop-out status is an additional control.

Finally, if adolescents select themselves (or are selected) into work of higher or lower intensity on the basis of prior attributes (e.g., mental health, problem behavior, or involvement or achievement in school) which remain stable over time, any observed relationships between work intensity and the criteria could be attributable to selection processes. But whereas inclusion of lagged criteria as predictors allows stronger causal inferences than are possible with cross-sectional data, it also raises the possibility of "overcontrolling." That is, if youth work continues over a period of time, it may exert its influence relatively early in the employment history. If that were to happen, the effects of work intensity could be reflected in each lagged criterion variable (measured one year earlier), leading the analyst to control the very influence that is the focus of study. To mitigate against this problem and to be able to examine the influence of hours of work with and without control for some common causes (i.e., the background variables), we enter dummy-variable work hours predictors reflecting high intensity and low intensity employment (in relation to the reference category of non-working students) into a series of equations; first controlling only gender, then gender and the four background variables, and, finally, gender, the background factors and the one-year lagged criterion. If a relationship between work intensity and the criteria were found to be robust even under the last specification, having the most inclusive set of controls, there would be strong evidence for a causal linkage. We repeat this series of analyses three times--estimating the effects of work intensity in the 10th, 11th, and 12th grades.

Since the measures of mental health, time spent on homework, and grade point average are all justifiably treated as interval scales, we use ordinary least squares regression to assess their responsiveness to work intensity.

But because the behavioral adjustment variables are ordinal scales (see Appendix A), we use the ordered probit estimation procedure (LIMDEP) to examine these variables. As for the interval measure dependent variables, we assess the effects of dummy variable work intensity predictors under the conditions of the three sets of controls. In the third, including the lagged criteria, the response categories are expressed as dummy variables; zero, indicating that the respondent never engaged in the behavior, is the reference indicator).

We first briefly consider the prevalence of adolescent employment and the kinds of jobs the teenagers held during the four years of observation. We then examine the implications of work intensity each year for adolescent mental health, achievement, and behavioral adjustment. Finally, we assess possible reciprocal causation at an earlier point in time, that is, whether the lagged psychological and behavioral variables, measured one year earlier, influence the intensity of work during the following year.

FINDINGS

The students, mostly fourteen and fifteen years old at the time of the first-wave survey, were found to have considerable work experience. Of the ninth graders, 82.5% had ever held a steady job. Most obtained their first jobs at age 12 or younger, with girls starting to work earlier than boys (Mortimer, Finch, Owens, and Shanahan, 1990). Table 1 shows that girls are more likely than boys to be employed at each wave; the gender difference is especially pronounced in wave 1. In the earlier years, this difference is likely attributable to the concentration of girls in babysitting. Whereas 35% of boys held informal employment in the ninth grade; this was the case for fully 72 percent of the employed girls, most of whom worked in private households as babysitters. By the tenth grade, 34 percent of the girls, and 9

percent of the boys were employed in informal work settings. The decline in girls' employment between waves 1 and 2, from 63 to 52 percent, could be due to the difficulties that some girls experience in moving from informal to formal work. Despite that fact that informal employment is quite rare for both genders by the fourth wave, the employment differential in favor of girls continues. (Recent national studies indicate no gender difference in youth labor force participation and employment, see U. S. Department of Labor, 1987: 15; U. S. Department of Labor, 1985; Bachman, et al., 1987: 162).

Students report substantial, and increasing, hours of work; 9th grade boys worked 11.3 hours per week on the average, and 21.8 hours in the fourth wave; boys exhibited a large increase in work hours between the ninth and tenth grades. The corresponding figures for girls are 11.5 and 19.8 in waves 1 and 4, with girls showing more gradual increments in work hours over time. By the fourth wave about a fourth of the panel work more than 20 hours per week. Whereas girls' wages are considerably lower than boys' in the ninth grade, because of their concentration in babysitting, the gender differential is rather small in the latter years of high school. Boys report higher earnings over a two-week interval.

Elsewhere we have described the distribution of the students' first jobs and the ninth graders' jobs (Mortimer, Finch, Owens, and Shanahan, 1990). As shown in Table 2, the character of adolescent work changes over time, with large numbers in informal work in the first year; concentration in restaurant work in years 2 and 3, and then greater dispersion across various types of jobs in wave 4. "Youthwork" is found to be segregated by sex, just as is adult work. For example, in the fourth wave, girls are more likely than boys to be doing informal, clerical and sales work, and to be in jobs that involve teaching or care for others (i.e., in health and recreation settings). Boys

are more likely to do semi-skilled (as operatives, drivers, etc.) and restaurant work, and to work as manual laborers. These gender differences generally hold across waves. (The greater prevalence of boys in the sales category in the ninth grade is due to the fact that many young males are newspaper carriers).

The Effects of Work Intensity on Adolescent Mental Health and Achievement

Considering first the mental health criteria, students who worked more than 20 hours were not found to exhibit greater depressive affect, lower self-esteem or a more external control orientation than students who did not work (analyses not shown). There was only one significant effect of low intensity (20 hours per week or less) work, but because it appeared in only one model specification it cannot be considered robust. (Students who worked 20 or fewer hours in the tenth grade had higher self-esteem, beta=.072, $p<.05$, than students who did not work, but only in the second model specification, including gender and the four background controls.) The two dummy hours variables did not significantly predict the time adolescents spend on homework in waves 2 and 3 (there were consistent null findings across the three model specifications). However, in wave 4, high intensity work had a negative effect on homework time (beta=-.105, $p<.01$) in the third model specification. The hypothesis that adolescents' grades suffer from long hours of work was not supported (see Table 3). Only in grade 10, and in the third model specification including all controls, did higher intensity work depress grades, considered in relation to students who did not work. But high school seniors employed fewer than 20 hours had higher grade point averages than those who were not employed. Remarkably, this positive effect of lower intensity work remained statistically significant under all three model specifications. It is difficult to understand why the positive effect of low-

intensity employment on grades is evident only at this time. (Whereas low intensity work also has a positive effect on grades on the eleventh grade, this coefficient becomes statistically insignificant when the control variables are entered.)

The Effects of Work Intensity on Behavioral Adjustment

It is in the realm of behavioral adjustment, particularly substance use, that prior research shows the clearest link to high intensity employment. Still, it remains to be seen whether this relationship may be spurious due to "third variables" (e.g., attributable to the effects of gender and/or social background) or attributable to processes of selection (i.e., those with prior behavioral problems choose to work more intensively). We consider these alternatives with respect to three behavioral adjustment indicators--drinking, smoking, and school problem behavior.

As shown in Table 4, there is strong evidence that high intensity employment fosters alcohol use. In waves 2 and 3, high intensity employment was found to have significant positive effects on drinking behavior even with gender, the four background variables, and the lagged criterion controlled. Fourth-wave respondents who worked more than 20 hours drank more frequently than non-working students even when gender, socio-economic status, race, family composition, nativity and drop-out status were taken into account. However, in the fourth wave, high intensity work has no significant effect under the condition of the third, most stringent, set of controls. This is not surprising given the high stability of drinking behavior. In only the third wave were students who worked less intensively found to drink significantly more often than students who did not work.

There was little evidence that high intensity employment fosters smoking. Only in wave 3, in two model specifications, were those who worked more

intensively found to smoke significantly more than those who did not work (see Table 5). There was no evidence that teenagers who work at lower intensity smoke more than their non-working counterparts; in fact, in instances where low intensity work had a significant effect, it was negative. It is noteworthy that the two work intensity variables were found to have no significant effects, in any of the three years, when the lagged variable is included. Given the extremely high stability of smoking behavior, it is a most powerful predictor.

A similar pattern was evident with respect to school problem behavior (see Table 6): scant evidence that high intensity work promotes getting in trouble at school, and some indication in wave 4 that working at low intensity exerts a depressive (protective) effect.

We noted earlier that we estimated the effects of a continuous measure of work intensity in a series of preliminary analyses. Since these yielded findings that are quite consistent with those reported above, they are not presented. That is, work intensity, continuously measured, had virtually no significant effects on the mental health and achievement criteria, irrespective of time and model specification. It had a significant positive impact on drinking. Not surprisingly, given the evidence for a curvilinear relationship between work hours and the other two adjustment criteria, reported in Tables 5 and 6, the continuously-measured work intensity predictor manifested no consistent linear association with smoking or school problem behavior.

The Effect of Earlier Problem Behavior on Subsequent Work Intensity

The question remains as to whether earlier psychological and behavioral attributes drive students to work at greater or lesser intensity. It is plausible, for example, that students who have lower self-esteem, who are

maladjusted in the school environment or simply disinterested in school (as evidenced by school problem behavior, low grade point average, and little time devoted to homework) would choose to work more intensively. Perhaps such students would be seeking a different arena, outside of school, to demonstrate their proficiencies and to enhance their self-regard. They could be motivated by the financial gain derived from high-intensity work, enabling them to buy alcohol and cigarettes or to engage in status-enhancing activities with peers.

We therefore regressed work hours each year (continuously-measured) on each of the mental health, achievement and adjustment indicators measured the year previously. Because gender, social background, and school dropout status could influence the psychological and behavioral variables as well as work intensity, we control these variables in the analysis. Thus, each equation included the following predictors: one psychological or behavioral variable (measured one year prior to work intensity) and all controls. In these analyses, the lagged drinking, smoking and school problem variables were expressed as dummies. There was no evidence that adolescents with poorer mental health (i.e., who exhibit more depressive affect, lower self-esteem, or a more external control orientation) or lesser investment in school (as indicated by low grade point average, little time devoted to homework, and school problem behavior) are selected into work of higher intensity. However, these findings suggest that prior behavioral problems may be conducive to employment of high intensity. The lagged behavioral adjustment indicators did have significant positive effects on work hours the following year: first-year school problem behavior, drinking in waves 1, 2, and 3; and smoking in wave 3.

CONCLUSION

These analyses show that the question as to whether working has positive or negative effects on the mental health, achievement, and adjustment of youth

is a complex one. Because there are multiple potential outcomes of interest, there is no easy answer. With respect to the mental health constructs, the findings point to the conclusion that hours of work do not have significant deleterious influence. There is no evidence in these data that work intensity is significantly linked to adolescent self-esteem, mastery, or depressive affect. This pattern is consistent with earlier analyses, based on wave 1 cross-sectional data, which examined the effects of work hours on these and other psychosocial outcomes and found little relationship (Mortimer, et al., 1992a). Furthermore, Steinberg and Dornbusch (1991) report that the level of investment in work is not related to student self-reliance. Based on this finding and their analysis of self-esteem, these authors (1991:311) conclude that "the relationship between employment and psychosocial functioning is quite modest and not a direct function of hours of employment." Similarly, Bachman et al. (1986: 71) find no significant relationships between hours of work and either self-esteem or locus of control among high school seniors.

In view of our analyses of two school-related variables, time spent on homework and grade point average, we again cannot conclude that working is deleterious. In fact, the analyses show that students who worked at lower intensity in the twelfth grade had significantly higher grade point averages than students who did not work at all. There was no evidence that students who work more than 20 hours per week have lower grade point averages than students who are not employed. Only in the senior year did students who work long hours spend less time on homework. Greenberger (1988) suggests that adolescents who work long hours may maintain good grades by manipulating their courses, avoiding those that are difficult and require a lot of homework, so as to maintain relatively high grades despite their considerable investment in paid work. She also notes that teachers have reduced their expectations of

youth, acknowledging that adolescents have little time for homework because of their paid jobs.

In a similar vein, there is scant evidence that working long hours fosters smoking or school-problem behavior; high intensity work had no consistent impacts on these outcomes; low-intensity work at times manifested protective effects.

It is with respect to alcohol use that we find the greatest cause for concern about some youth's high investment in work. The fact that the work intensity variables remained significant predictors of drinking frequency even when the powerful background and lagged variables were controlled in waves 2 and 3 constitutes important new evidence that work intensity is causally linked to alcohol use. In wave 4, those who worked more than 20 hours also drank more frequently than those who were not employed, but this effect became insignificant when the powerful lagged variable was controlled.

We concluded earlier (Mortimer, et al., 1992a), on the basis of a cross-sectional analysis of the associations between employment status, hours of work, and work experiences in the ninth grade, on the one hand, and mental health, achievement and adjustment, on the other, that the negative tone of some recent commentaries on adolescent work may be overdrawn. This conclusion, with respect to the psychological and achievement-related variables, is strengthened by the present analysis of longitudinal data obtained from students as they moved through four years of adolescence (when most were age 14-15 to 18-19).

But with respect to alcohol use, there is some cause for concern about hours of work. Despite the fact that students were selected into high intensity employment each year partly on the basis of their prior drinking frequency, and despite the high stability of their use over time, there was

evidence that as work hours increases alcohol use also rises. This pattern has potentially important present as well as future consequences, given the health hazards associated with excessive alcohol consumption. Whereas other investigators have come to a similar conclusion (Greenberger and Steinberg, 1986; Steinberg and Dornbusch, 1991), the methodological strengths of the present study[1]--especially its use of a representative panel, studied over a four-year period with minimal attrition; the incorporation of key control variables; and the replication of the analyses across time--give special credence to this finding.

The causal dynamics underlying the association between work hours and alcohol use remain to be uncovered. Adolescents who work long hours may be more likely to socialize outside of work with older coworkers, both teenagers and young adults, who induct them into more adult styles of leisure activity. Alternatively, the problems associated with juggling a time-consuming job along with school and other activities could foster stress which the adolescent attempts to alleviate by alcohol use.

We have reported a large number of null findings with respect to the relationships between hours of work and the psychological outcomes--self-esteem, self-efficacy, and depressive affect--and the indicators of school involvement--time devoted to homework and grade point average. Does this mean that work in adolescence does not really matter for youth mental health and achievement? We do not believe that this conclusion is warranted because the analyses presented have only addressed the quantity, not the quality, of work. They do not consider the character of the activities that youth are engaged in. The kinds of employment that are most readily available to youth, simple tasks that involve little training or skill, have been found to have negative psychological consequences for adults. In contrast, challenging and self-

directed occupational conditions have been found to increase adults' self-confidence, lessen anxiety, and to foster self-directed values (Kohn and Schooler, 1983; Slomczynski, et al., 1981).

Some might argue that adolescent work is so homogeneous that assessment of the quality of youth work would have limited payoff. Consistent with this assumption, little attention has been given in prior studies to the relationships between psychosocial variables and the features of adolescents' jobs. Yet jobs that may seem routine from the standpoint of the adult may be viewed quite differently by a young person who is working for the first time. Adapting to the new rules and routines of the workplace, and building even simple job-related skills, may present quite a challenge to the young novice.

In analyses reported elsewhere (Finch, et al., 1991; Shanahan, et al., 1991), we find that constructs reflecting the quality of work are significant predictors of adolescent mastery orientation and depressive affect even when relevant background and lagged variables are controlled. For example, boys' mastery orientation was found to be enhanced when their work provided advancement opportunity. Boys' depressive affect diminished when they thought they were obtaining skills at work that would be useful in the future. In contrast, boys' sense of mastery was reduced, and their depressive affect raised, when they were confronted with difficulties in coordinating the demands of school and work. Whereas girls who felt that they were being paid well developed a stronger sense of mastery, those who felt responsible for things at work that were beyond their control expressed weaker mastery and more depressive affect over time.

Clearly, whether work experience has positive or negative effects on adolescent mental health depends on the quality of that experience. We concluded, on the basis of those analyses, that a key finding of research on

adult workers --that occupational conditions influence adult psychological functioning--can be generalized to adolescents. We have not yet fully analyzed the effects of work quality on the other criteria. However, on the basis of the findings obtained thus far we would strongly recommend that investigators who are interested in youthwork direct their attention away from the quantity, and toward the quality, of adolescent work experience.

FOOTNOTE

1. Methodological differences between this study and Steinberg and Dornbusch's (1991) report are noteworthy. First, our analyses explicitly compare students who work a greater or lesser number of hours with those who are not employed. Second, we examine alcohol use and smoking separately; their measures combine the frequency of cigarette, alcohol, marihuana and other drug use in an index of drug and alcohol use. Third, we separate the tendency to engage in these behaviors (at any level) and the frequency of involvement; they do not. Fourth, while our study is longitudinal; the findings reported in their article are based on cross-sectional data. Finally, we do separate analyses for males and females; they combine both genders. Given these methodological differences, the fact that the conclusions with respect to working hours and adolescent substance use are so highly convergent gives more credence to the conclusion that long hours of work are deleterious with respect to this outcome.

Appendix A. Measures

Mental Health and Behavioral Adjustment (standardized loadings, 9th grade)

Mastery (1=strongly disagree, 4=strongly agree)

- There is really no way I can solve some of the problems I have. (.502) (reversed)
- Sometimes I feel that I'm being pushed around in life. (.356) (reversed)
- I have little control over the things that happen to me. (.431) (reversed)
- I can do just about anything I really set my mind to do. (.212)
- What happens to me in the future mostly depends on me. (.106)
- I mostly feel helpless in dealing with the problems of life. (.486) (reversed)
- There is little I can do to change many of the important things in my life. (.406) (reversed)

Well-being (1=none of the time; 5=all of the time)

During the past month, how much of the time:

- Have you felt that the future looks hopeful and promising? (.435)
- Have you generally enjoyed the things you do? (.512)
- Have you felt calm and peaceful? (.583)
- Have you felt cheerful, lighthearted? (.519)

Depressive Affect (1=none of the time; 5=all of the time)

During the past month, how much of the time:

- Have you been under any strain, stress, or pressure? (.470)
- Have you felt downhearted and blue? (.699)
- Have you been moody or brooded about things? (.616)
- Have you felt depressed? (.825)
- Have you been in low or very low spirits? (.788)

Positive self-esteem (1=strongly disagree; 4=strongly agree)

- I feel I have a number of good qualities. (.278)
- I take a positive attitude toward myself. (.507)
- On the whole, I am satisfied with myself. (.470)

Behavioral Adjustment

School problem behavior (1=never; 2=once or twice; 3=3-4 times; 4=5-10 times; 5=more than 10 times)

Since the beginning of school this year, how often have you:

- gotten into trouble for misbehaving or breaking school rules?
- been sent to the principal's office or to detention because of something you have done?

(The responses to those items were combined to form a composite, ranging from 0 to 3: 0= 1 on both items; 1= 2 on both items, or 1 on one item and 2 on the other; 2= 3 on both items, or 3 on one item and 1 or 2 on the other; 3= 3 or 4 on either items)

Alcohol use

- Have you ever had any beer, wine, or liquor to drink?
- How many times have you had alcoholic beverages to drink during the past 30 days? (0=Never, 1= None during the past 30 days, 2= 1-2 times, 3= 3-5 times, 4= 6-9 times, 5= 10-19 times, 6= 20 or more times)

Smoking

- Have you ever smoked cigarettes (tobacco)?
- How often have you smoked cigarettes during the past 30 days? (0=Never, 1=Not at all during the last 30 days, 2= Less than 1 cigarette each day, 3= 1 to 5 cigarettes each day, 4= About 1/2 pack each day, 5= About 1 pack each day, 6= About 1-1/2 packs or more each day)

References Cited

Bachman, J. G., Bare, D. E. & Frankie, E. I. (1986). Correlates of Employment among High School Seniors. Ann Arbor: Institute for Social Research.

Bachman, J. G., O'Malley, P. M., & Johnston, J. (1987). Youth in transition: Vol VI. Adolescence to adulthood--change and stability in the lives of young men. Ann Arbor: Survey Research Center, Institute for Social Research.

Bachman, J. G. & Schulenberg, J. (1991). Part-time work by high school seniors related to drug use, problem behavior, time use, and satisfaction: Are these consequences, or merely correlates? Unpublished manuscript.

Blau, P. M. & Duncan, O. D. (1967). The American Occupational Structure. New York: Wiley.

Call, K. T. & McNall, M. (forthcoming). Poverty, ethnicity, youth adjustment: A comparison of poor Hmong and non-Hmong adolescents. In W. Meeus, M. de Goede, W. Kox, & K. Hurrelmann (eds.), Adolescence, Careers and Cultures. Berlin: DeGruyter.

Carnegie Council on Policy Studies in Higher Education. (1980). Giving Youth a Better Chance. San Francisco: Jossey-Bass.

Cole, S. (1980). Working kids on working. New York: Morrow.

D'Amico, R. J. (1984). Does employment during high school impair academic progress? Sociology of Education, 57, 152-164.

Dillman, D. A. (1983). Mail and other self-administered questionnaires. Pp. 359-377 in P. H. Rossi, J. D. Wright, & A. B. Anderson (eds.), Handbook of Survey Research. New York: Academic Press.

Dunnigan, T., McNall, M., & Mortimer, J. T. (forthcoming). The problem of

metaphorical nonequivalence in cross-cultural survey research: Comparing the mental health statuses of Hmong refugee and general populations adolescents. Journal of Cross-Cultural Psychology.

Elder, G. H., Jr. (1974). Children of the Great Depression. Chicago: University of Chicago Press.

Elder, G. H., Jr. & Rockwell, R. C. (1979). Economic depression and postwar opportunity in men's lives: A study of life patterns and health. Pp. 249-303 in R. G. Simmons (ed.), Research in Community and Mental Health: Vol. 1. Greenwich, CT: JAI Press.

Featherman, D. L. (1980). Schooling and occupational careers: Constancy and change in worldly success. Pp. 675-738 in O. G. Brim, Jr., & J. Kagan (eds.), Constancy and Change in Human Development. Cambridge: Harvard University Press.

Finch, M. D., Shanahan, M. J., Mortimer, J. T., & Ryu, S. (1991). Work experience and control orientation in adolescence. American Sociological Review, 56, 597-611.

Garmezy, N. (1988). Longitudinal strategies, causal reasoning and risk research: A commentary. Pp. 29-44 in M. Rutter (ed.), Studies of Psychosocial Risk: The Power of Longitudinal Data. Cambridge: Cambridge University Press.

Greenberger, E. (1983). A researcher in the policy arena: The case of child labor. American Psychologist, 38, 104-111.

Greenberger, E. (1984). Children, families, and work. Pp. 103-122 in N. D. Reppucci, L. A. Weithorn, E. P. Mulvey, & J. Monahan (eds.), Children, Mental Health, and the Law. Beverly Hills, CA: Sage.

Greenberger, E. (1988). Working in teenage America. Pp. 21-50 in J. T.

Mortimer and K. M. Borman (eds.), Work Experience and Psychological Development through the Life Span. Boulder, CO: Westview Press.

Greenberger, E. & Steinberg, L. D. (1981). The workplace as a context for the socialization of youth. Journal of Youth and Adolescence, 10, 185-210.

Greenberger, E. & Steinberg, L. D. (1986). When Teenagers Work. New York: Basic Books.

Hetherington, E. M. (1989). Coping with family transitions: Winners, losers, and survivors. Child Development, 60, 1-14.

Hotchkiss, L. (1982). Effects of Work Time on School Activities and Career Expectations. Columbus: National Center for Research in Vocational Education.

Kohn, J. L. & Schooler, C. (1983). Work and Personality: An Inquiry into the Impact of Social Stratification. Norwood, NJ: Ablex.

Lewin-Epstein, N. (1981). Youth Employment During High School. Washington, D. C.: National Center for Educational Statistics.

Marsh, H. W. (1991). Employment during high school: Character building or a subversion of academic goals? Sociology of Education, 64, 172-189

Mortimer, J. T. & Finch, M. D. (1986). The effects of part-time work on self-concept and achievement. Pp. 66-89 in K. Borman & J. Reisman (eds.), Becoming a Worker. Norwood, NJ: Ablex.

Mortimer, J. T., Finch, M. D., Owens, T., and Shanahan, M. (1990). Gender and Work in Adolescence. Youth and Society, 22, 201-224.

Mortimer, J. T., Finch, M. D., Shanahan, M. J. & Ryu, S. (1992a). Work experience, mental health, and behavioral adjustment in adolescence. Journal of Research on Adolescence, 2, 25-57.

Mortimer, J. T., Finch, M. D., Shanahan, M. J. & Ryu, S. (1992b). Adolescent

work history and behavioral adjustment. Journal of Research on Adolescence, 2, 59-80.

Mortimer, J. T. & Shanahan, M. J. (1991). Adolescent work experience and relations with peers. Paper presented at the American Sociological Association Annual Meeting, Cincinnati.

National Commission on Youth. (1980). The Transition to Adulthood: A Bridge Too Long. Boulder, CO: Westview Press.

Panel on Youth of the President's Science Advisory Committee (Chair: James S. Coleman). (1974). Youth: Transition to Adulthood. Chicago, IL: University of Chicago Press.

Pearlin, L. I., Menaghan, E. G., Lieberman, M. A., & Mullan, J. T. (1981). The stress process. Journal of Health and Social Behavior, 22, 337-356.

Phillips, S. & Sandstrom, K. L. (1990). Parental attitudes towards youth work. Youth and Society, 22, 160-183.

Rosenberg, M. (1965). Society and the Adolescent Self-Image. Princeton, NJ: Princeton University Press.

Schill, W. J., McCartin, R., & Meyer, K. (1985). Youth employment: Its relationship to academic and family variables. Journal of Vocational Behavior, 26, 155-163.

Shanahan, M. J., Finch, M. D., Mortimer, J. T., & Ryu, S. (1991). Adolescent work experience, and depressive affect. Social Psychology Quarterly, 54, 299-317.

Simmons, R. G., & Blyth, D. A. (1987). Moving into Adolescence: The Impact of Pubertal Change and School Context. New York: Aldine.

Slomczynski, K., Miller, J., & Kohn, M. L. (1981). Stratification, work, and values: A Polish-United States comparison. American Sociological Review,

46, 720-744.

Snedeker, G. (1982). Hard Knocks. Preparing Youth for Work. Baltimore: Johns Hopkins University Press.

Steel, L. (1991). Early work experience among white and non-white youths: Implications for subsequent enrollment and employment. Youth and Society, 22(4), 419-447.

Steinberg, L. & Dornbusch, S. M. (1991). Negative correlates of part-time employment during adolescence: Replication and elaboration. Developmental Psychology, 27, 304-313.

Steinberg, L. D., Fegley, S., & Dornbusch, S. M (1993). Negative impact of part-time work on adolescent adjustment: Evidence from a longitudinal study. Developmental Psychology, 29, 171-180.

Steinberg, L. D., Greenberger, E., Garduque, L., Ruggiero, M., & McAuliffe, S. (1982b). High school students in the labor force: Some costs and benefits to schooling and learning. Education Evaluation and Policy Analysis, 4, 363-372.

Steinberg, L. D., Greenberger, E., Garduque, L., Ruggiero, M. & Vaux, A. (1982a). Effects of work in adolescent development. Developmental Psychology, 18, 385-395.

U.S. Department of Labor. (1985). Handbook of Labor Statistics (Bureau of Labor Statistics, Bulletin 2217). Washington, DC: U.S. Government Printing Office.

U.S. Department of Labor. (1987). Employment and Earnings (Vol. 34, 10). Washington, DC: U.S. Government Printing Office.

Ware, J. E., Johnston, S. A., Davies-Avery, A., & Brook, R. H. (1979). Current HIS mental health battery (R-19897/3-Hew) Appendix E. in

Conceptualization and Measurement of Health for Adults in the Health Insurance Study: Vol. III, Mental Health. Santa Monica, CA: Rand Corporation.

Werner, E. E. (1984). Child Care: Kith, Kin and Hired Hands. Baltimore: University Park Press.

Wirtz, W. (1975). The Boundless Resource: A Prospectus for an Education/Work Policy. Washington, DC: New Republic Book Co.

Table 1. Work Status, Type of Work, Hours of Work, and Earnings by Gender and Grade

		9TH GRADE		10TH GRADE		11TH GRADE		12TH GRADE	
		BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS
Percent Working		40%	63%	42%	52%	53%	63%	58%	70%
Percentage of Workers in Formal Employment		64%	27%	91%	64%	97%	86%	96%	93%
Work Intensity									
not working		64.0%	38.7%	61.7%	50.3%	49.2%	38.8%	44.1%	31.4%
1-20 hrs.		31.3%	55.0%	23.2%	39.4%	27.0%	39.4%	31.7%	43.2%
more than 20 hrs.		4.7%	6.3%	15.1%	10.3%	23.8%	21.8%	24.3%	25.5%
Hours Worked	(Median)	7.5	9.5	20.0	15.0	20.0	18.0	20.0	20.0
	(Mean)	11.3	11.5	19.6	15.8	21.9	18.6	21.8	19.8
	(S.D.)	9.7	8.8	10.8	8.3	9.9	8.5	10.6	9.2
Earnings Per Hour (in dollars)	(Median)	3.50	2.00	4.00	3.80	4.35	4.25	4.85	4.65
	(Mean)	4.10	2.77	4.38	3.74	4.53	4.25	5.08	4.76
	(S.D.)	3.70	3.16	3.52	3.21	0.85	1.07	1.31	4.25
Earnings Two Weeks (in dollars)	(Median)	*	*	112	75	150	120	160	140
	(Mean)	*	*	123	85	170	127	175	149
	(S.D.)	*	*	103	63	112	77	110	82

*Information not obtained for that year of data collection

Table 2. Frequency Distributions of Job Types Held by Students, Boys and Girls, Grades 9-12

JOB TYPE	GRADE 9		GRADE 10		GRADE 11		GRADE 12	
	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS
Informal	36.4 (67)	73.0 (246)	9.4 (16)	36.1 (92)	3.1 (7)	13.9 (43)	3.9 (9)	7.3 (24)
Restaurant/ Food Work	26.6 (49)	16.3 (55)	46.8 (80)	40.4 (103)	47.6 (108)	32.3 (100)	39.0 (90)	27.5 (90)
Sales	16.8 (31)	5.0 (17)	12.3 (21)	11.8 (30)	14.1 (32)	33.9 (105)	20.3 (47)	34.6 (113)
Laborers	10.9 (20)	2.1 (7)	22.2 (38)	3.1 (8)	23.8 (54)	2.6 (8)	20.3 (47)	3.4 (11)
Semi-skilled	3.3 (6)	.3 (1)	2.3 (4)	2.0 (5)	4.0 (9)	1.3 (4)	7.8 (18)	2.4 (8)
Clerical	3.3 (6)	.9 (3)	3.5 (6)	3.1 (8)	.4 (1)	5.2 (16)	1.3 (3)	13.8 (45)
Teachers/ Recreation	2.2 (4)	2.1 (7)	2.9 (5)	3.1 (8)	3.1 (7)	9.7 (30)	5.2 (12)	10.1 (33)
Others	.5 (1)	.3 (1)	.6 (1)	.4 (1)	4.0 (9)	1.3 (4)	2.2 (5)	.9 (3)
Percent	100	100	100	100	100	100	100	100
Total N	184	337	171	255	227	310	231	327

Table 3. The Effects of Hours of Work on GPA (OLS Regression)

Controlling		Wave 2			Wave 3			Wave 4		
		Gender	Gender & Background	Gender, Background & Lagged	Gender	Gender & Background	Gender, Background & Lagged	Gender	Gender & Background	Gender, Background & Lagged
HI HOURS	W2	ns	ns	-.059*						
LO HOURS	W2	.071*	ns	ns						
HI HOURS	W3				-.072[a]	ns	ns			
LO HOURS	W3				.090*	ns	ns			
HI HOURS	W4							ns	ns	ns
LO HOURS	W4							.265***	.193***	.131***
Gender		ns	ns	ns	ns	-.065[a]	ns	-.111**	-.126***	-.101***
Race			.063[a]	ns		.124***	.080*		.134***	.058[a]
Family Composition			ns	ns		.065[a]	.066*		ns	ns
Nativity			-.138***	ns		-.119***	ns		-.126***	-.049[a]
SES			.252***	.081**		.287***	.168***		.258***	.074*
Lagged Variable				.600***			.509***			.627***
R^2		.011	.101	.414	.022	.155	.397	.088	.188	.518
N		882	812	789	847	777	758	788	727	709

[a] p<.10 ** p<.01
* p<.05 *** p<.001

Table 4. The Effects of Hours of Work on Drinking (Ordered Probit)

		Wave 2			Wave 3			Wave 4		
Controlling		Gender	Gender & Background	Gender, Background & Lagged	Gender	Gender & Background	Gender, Background & Lagged	Gender	Gender & Background	Gender, Background & Lagged
HI HOURS	W2	.305**	.307**	.295*						
LO HOURS	W2	ns	ns	ns						
HI HOURS	W3				.341***	.306**	.258*			
LO HOURS	W3				.173*	.180*	.179[a]			
HI HOURS	W4							.335***	.258**	ns
LO HOURS	W4							ns	ns	ns
Gender		ns	ns	ns	ns	ns	ns	.168*	.136[a]	.146[a]
Race			.522	.449***		.335***	ns		.299**	ns
Family Composition			ns	ns		ns	ns		ns	ns
Nativity			.307*	ns		ns	ns		.486**	.421*
SES			-.045[a]	-.076*		ns	ns		ns	ns
Dropout						.342*	.340*		.228[a]	ns
Lagged Variable										
1				.651**			.878***			.924***
2				1.236***			1.135***			1.307***
3				1.447***			1.614***			1.650***
4				1.673***			1.785***			1.670***
5				1.580***			1.789***			1.796***
6				1.415***			2.377***			2.372***
N		875	805	776	906	808	764	876	788	772

[a] p<.10 ** p<.01
* p<.05 *** p<.001

Table 5. The Effects of Hours of Work on Smoking (Ordered Probit)

Controlling		Wave 2			Wave 3			Wave 4		
		Gender	Gender & Background	Gender, Background & Lagged	Gender	Gender & Background	Gender, Background & Lagged	Gender	Gender & Background	Gender, Background & Lagged
HI HOURS	W2	.215[a]	.243[a]	ns						
LO HOURS	W2	ns	ns	ns						
HI HOURS	W3				.193*	.243*	ns			
LO HOURS	W3				-.364***	-.226*	ns			
HI HOURS	W4							ns	ns	ns
LO HOURS	W4							-.271**	-.190[a]	ns
Gender		-.397***	-.459***	-.275**	-.236**	-.329***	ns	-.190*	-.256**	ns
Race			.317**	ns		.342**	ns		.397**	ns
Family Composition			ns	ns		-.214*	ns		ns	ns
Nativity			.614**	ns		.534*	ns		.637**	.550[a]
SES			ns	ns		ns	ns		-.058[a]	ns
Dropout						.949***	.563**		.885***	ns
Lagged Variable										
	1			.661***			.934***			1.128***
	2			1.328***			1.657***			1.649***
	3			2.096***			2.074***			2.292***
	4			2.875***			2.506***			2.893***
	5			2.944***			3.368***			3.578***
	6			3.132***			3.559***			4.337***
N		873	801	767	905	807	759	876	787	771

[a] p<.10 ** p<.01
* p<.05 *** p<.001

Table 6. The Effects of Hours of Work on School Problem Behavior (Ordered Probit)

		Wave 2			Wave 3			Wave 4		
Controlling		Gender	Gender & Background	Gender, Background & Lagged	Gender	Gender & Background	Gender, Background & Lagged	Gender	Gender & Background	Gender, Background & Lagged
HI HOURS	W2	.193[a]	.200[a]	ns						
LO HOURS	W2	-.154[a]	ns	ns						
HI HOURS	W3				.219*	ns	ns			
LO HOURS	W3				ns	ns	ns			
HI HOURS	W4							ns	ns	ns
LO HOURS	W4							-.228*	-.231*	ns
Gender		.278***	-.306***	-.290***	.391***	.432***	.269**	.558***	.582***	.497***
Race			ns	ns		ns	ns		ns	ns
Family Composition			-.189*	-.220*		-.184*	ns		ns	ns
Nativity			.658***	ns		.970***	.679***		.602**	ns
SES			-.104***	-.054*		-.082**	-.053[a]		-.053[a]	ns
Lagged Variable										
1				.848***			.712***			.697***
2				1.427***			1.090***			1.389***
3				1.995***			2.019***			1.654***
N		895	822	814	850	781	769	793	732	717

[a] p<.10 ** p<.01
* p<.05 *** p<.001